



Research Product 2005-05

**Future Army-Wide Soldier
Performance Requirements**

Human Resources Research Organization

March 2005

Selection and Assignment Research Unit

**U.S. Army Research Institute
for the Behavioral and Social Sciences**

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**Future Army-Wide Soldier
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**Selection and Assignment Research Unit
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Foreword

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) conducts research to support Army personnel and training goals. In recognition of the changes emerging with the Army's transformation, ARI developed a research program to identify, describe, and address future personnel requirements. This report describes an aspect of an ongoing ARI project concerned with future enlisted Soldiers.

The objective of this project is to provide personnel tests for selecting and assigning entry-level Soldiers to future jobs. This report is part of a series of Product Reports summarizing interim outcomes of this ongoing project.

- Future job clusters – December 2004
- Future Army-wide Soldier performance requirements – March 2005
- Select21 experimental selection and classification instruments
- Soldier job performance measurement tools
- Select21 validation results and recommendations

This report describes projected Army-wide job requirements of first-term Future Force Soldiers.

Project Select21 is being conducted with support from the Army G-1, Deputy Chief of Staff for Personnel, and from the Army Training and Doctrine Command (TRADOC). ARI has briefed these sponsors, as well as representatives of other offices to include the Army Accessions Command, Human Resources Command, and the Army G-3, Deputy Chief of Staff for Operations. Research sponsors have provided the support and guidance needed for the success of the research.



MICHELLE SAMS
Technical Director

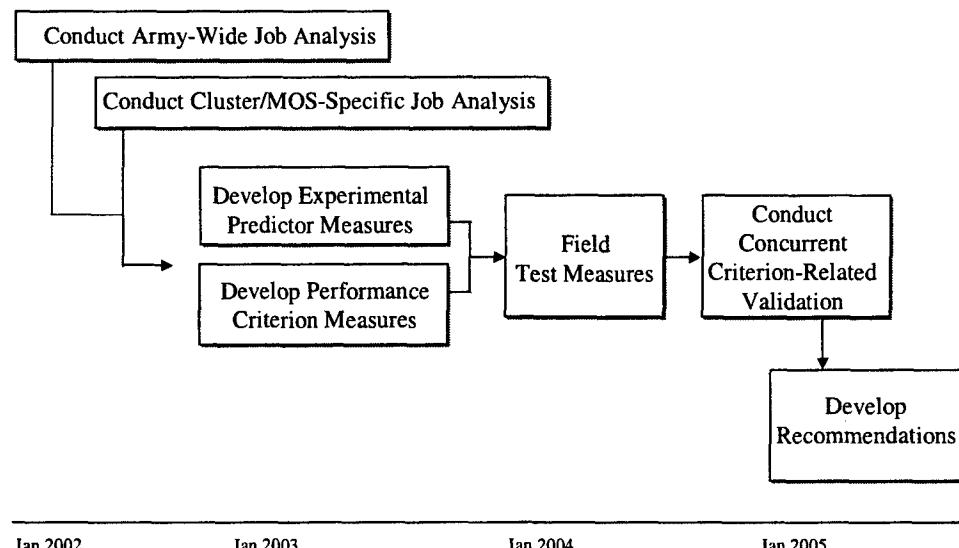
What is Project Select21?

The U.S. Army has undertaken far-reaching changes to transform the current force into one that is more responsive, deployable, agile, versatile, and lethal while being fully survivable and sustainable under all conditions. *New Predictors for Selecting and Assigning Future Force Soldiers (Select21)* is an Army research project oriented on the personnel system by which the Army selects entry-level Soldiers and assigns the Soldiers to jobs. Select21 is designed to help ensure that through this system, the Army will acquire new Soldiers with the knowledges, skills, and attributes (KSAs) needed for performing the duty requirements emerging as part of the transformation. More specifically, the objectives of Select21 are to develop measures of these KSAs and to evaluate their potential for use in the Army's personnel acquisition system.

What is this report about?

A schematic overview of Select21 is shown below. To conduct the Select21 research, the project team needed to identify the job performance requirements of future entry-level Army jobs. The performance requirements serve two major purposes for the Select21 research program. First, they serve as a basis for inferring the relevant pre-enlistment KSAs that the Army should look for when considering applicants for enlistment. Second, researchers use the performance requirements to develop job performance measures that will be used in the research to evaluate (or "validate") the experimental pre-enlistment tests.

This report describes the projections of the future performance requirements of all first-term Soldiers, regardless of Military Occupational Specialty (MOS). The research projected Future Force job requirements in three complementary ways: (a) conditions under which future first-term Soldiers will work, (b) broad dimensions (e.g., teamwork, communication, effort and initiative) for describing the overall job performance of Soldiers in any future job or MOS, and (c) common technical task requirements.



Anticipated Army-Wide Conditions in the 21st Century for First-Term Soldiers

Based on a review of current doctrine, past research, and Future Force planning documents, the Select21 team projected the following six conditions as likely characteristics of the future Army as it pertains to the experience of first-term Soldiers.

Learning Environment

Throughout their careers, Soldiers play a greater role in their own professional development, by keeping pace with changing operational requirements, new technologies, common weapons platforms, and evolving doctrines. There will be a greater requirement for continuous learning and the need to independently maintain/increase proficiency on assigned tasks. Learning will involve more complex material and be done under considerable time constraints. There will be less unstructured on-the-job training and more learning using embedded training, distance learning, and computer-assisted instruction.

Disciplined Initiative

In a transformed Army culture, every Soldier is trained and equipped to be a decision maker. Soldiers will be required to perform assigned tasks with less back-up from supervisors and/or peers.

Communication Method and Frequency

The digitization of the U.S. Army represents the greatest change in warfighting since the Napoleonic era and lays the foundation for the conduct of warfare in the 21st century. There will be greater reliance on digitized communication (i.e., text, voice, video) and an increased need for situational awareness.

Individual Pace and Intensity

The future operational environment for the Unit of Action (UA) strongly suggests the tempo and intensity of operations will expose Soldiers to enduring stresses on the battlefield. Thus, there will be a greater need for mental and physiological stamina, adaptability, and awareness of current status. The number of task requirements will increase as a result of mission types and operational environments.

Self-Management

There will be greater emphasis on ensuring that Soldiers balance and manage their personal matters and well-being.

Survivability

The Future Force family of systems is characterized by lightweight materials, advanced survivability (Active Protection Systems), and signature management. The future Soldier is protected from disease and other environmental and biological health threats and is supported by a highly capable and responsive medical system. Improved protective systems, transportation, communication, and medical care will result in an incremental improvement in personal safety. However, Soldiers will still be in harm's way.

Army-Wide Performance Dimensions for First-Term Soldiers

Assessment of current doctrine, past research, and Future Force planning documents, resulted in a list of 19 dimensions for characterizing the performance responsibilities of future first-term Soldiers. The dimensions are components or domains for broadly describing the performance responsibilities of any future job (or MOS) and for sampling the more specific tasks of a job. Each dimension is defined in a manner useful for evaluating Soldier performances in terms of the dimension. The dimensions and their definitions are presented below.

Adapts to Changing Situations. Is able to maintain commitment when environments, tasks, responsibilities, or personnel change. Does not allow stress in high-pressure situations to interfere with job performance. Easily commits to learning new things when the technology, mission, or situation requires it.

Communicates in Writing. Communicates thoughts, ideas, and information successfully to others through writing. Uses proper sentence structure including grammar, spelling, capitalization, and punctuation.

Communicates Orally. Speaks in a clear, organized, and logical manner. Communicates detailed information, instructions, or questions in an efficient and understandable way. Note that this dimension refers to how well the individual can speak and communicate, not whether technical expertise is high or low.

Demonstrates Military Presence. Presents a positive and professional image of self and the Army even when off duty. Maintains proper military appearance. Sets the precedent for other Soldiers to follow.

Demonstrates Physical Fitness. Meets Army standards for weight, physical fitness, and strength. Maintains health (e.g., dental hygiene) and fitness to meet requirements, to handle the physical demands of the daily job, and to endure the stress of combat.

Demonstrates Teamwork. Understands own and team tasks in relation to the mission or assignment. Coordinates with and helps members maintain focus on the team's goals.

Exhibits Cultural Tolerance. Demonstrates tolerance and understanding of individuals from other cultural and social backgrounds, both in the context of the diversity of U.S. Army personnel and interactions with foreign nationals during deployments or when training for deployment.

Exhibits Effort and Initiative on the Job. Demonstrates high effort in completing work. Takes independent action when necessary. Seeks out and willingly accepts responsibility and additional challenging assignments. Persists in carrying out difficult assignments and responsibilities.

Exhibits Integrity and Discipline on the Job. Maintains high ethical standards. Does not succumb to peer pressure to commit prohibited, harmful, or questionable acts. Demonstrates trustworthiness and exercises effective self-control. Understands and accepts the basic values of the Army and acts accordingly.

Exhibits Safety Consciousness. Follows the details of safety guidelines and instructions. Checks the behavior of others to ensure compliance.

Exhibits Self-Directed Learning. Takes responsibility for mastering skills and learning to apply those skills in the job. As necessary, effectively invests time in learning and practice. Mastery of skills includes those (a) acquired during basic and advanced individual training, and (b) additional skills required by the Soldier's initial assignment.

Exhibits Selfless Service Orientation. Commits to the greater good of the team or group. Puts organizational welfare ahead of individual goals as required.

Exhibits Self-Management. Effectively manages own responsibilities (e.g., work assignments, personal finances, family, and personal well being), and appears on duty prepared for work. Sets goals, makes plans, and critically evaluates own performance. Works effectively without direct supervision but seeks help when appropriate.

Follows Instructions and Rules. Understands and carries out instructions relayed orally or in writing. Adheres to regulations, policies, and procedures while completing assignments.

Manages Information. Effectively monitors, interprets, organizes, and redistributes information (i.e., digital, printed, or oral). Does not readily succumb to information overload.

Performs Common Tasks. Possesses the necessary knowledge and skill to perform common tasks at the appropriate skill level (e.g., land navigation, field survival techniques, and chemical, biological, radiological and nuclear [CBRN] protection).

Relates to and Supports Peers. Treats peers in a courteous, respectful, and tactful manner. Shows concern for others by providing help and assistance. Backs up and fills in for others when needed.

Solves Problems and Makes Decisions. Reacts to new problem situations by applying previous experience and previous education/training appropriately and effectively. Does not apply rules or strategies blindly. Assesses costs and benefits of alternative solutions and makes timely decisions even with incomplete information.

Uses Computers. Understands and uses computer interfaces and applications (e.g., email, World Wide Web, and Army-specific systems).

Army-Wide Common Tasks for First-Term Soldiers

The performance dimension “Performs Common Tasks” was made more specific as a basis for describing future technical performance. The future-oriented common tasks identified in Project Select21 are shown here.

Process Casualties

Handle casualties or remains

First Aid

Evaluate a casualty

Perform basic first aid (i.e., CPR, shock prevention, clear throat of casualty)

Administer first aid to wounds to the abdomen or chest

Administer first aid for injuries to extremities or limbs (e.g., put on field dressing, tourniquet, splint)

Administer first aid for an open head wound

Administer first aid for burns or injuries from heat or cold

Administer first aid to CBRN casualty

Transport a casualty

Request medical evacuation

Operate telemedicine transmitting device

Maintenance

Conduct vehicle/FCS platform preventive maintenance checks and services

Mine Installation/Recovery

Locate and neutralize mines

Install antipersonnel mines

Navigate

Navigate using a compass, a map, and overlays

Navigate from one point on the ground to another point

Navigate using electronic or digital tools (e.g., global positioning system receivers)

Prepare field-expedient maps or overlays

Survive

React to combat situations (e.g., attack, ambush, direct/indirect fire) based on training, experience, and own judgment

Communicate by tactical voice or audio systems (e.g., tactical radio, tactical telephone)

Report information of potential intelligence value (SALUTE)

Prepare unit equipment for movement

Select, construct, and camouflage an individual fighting position

React to hazardous incidents (e.g., unexploded ordinance, hazardous materials) based on training, experience, and own judgment

Move through the battlefield, around obstacles, under fire, day or night using visual, hand, or arm signals

Camouflage yourself and your personal equipment

- Camouflage equipment (other than personal)
- Employ hand-to-hand techniques
- Conduct guard duty
- Control entry into restricted areas
- Conduct a defense by a squad-sized unit
- Visually identify vehicles and aircraft (friend and foe)
- Establish an observation post
- Control or evacuate crowds/non-combatants
- Operate a vehicle in a convoy
- Defend against air attack
- Prevent subversion/espionage directed against the Army

Chemical, Biological, Radiological, Nuclear (CBRN)

- Protect yourself and others from NBC injury/contamination using appropriate gear and/or mask
- Protect yourself from hazards (e.g., depleted uranium)
- Decontaminate yourself or individual equipment using decontamination kits
- React to a nuclear, chemical, or biological attack or hazard based on training, experience, and own judgment
- Detect or monitor chemical/biological agents using kits, papers, or monitoring devices
- Detect radiation and measure dose using detection and measurement tools
- Cross a contaminated chemical/nuclear area
- Prepare for a friendly nuclear attack

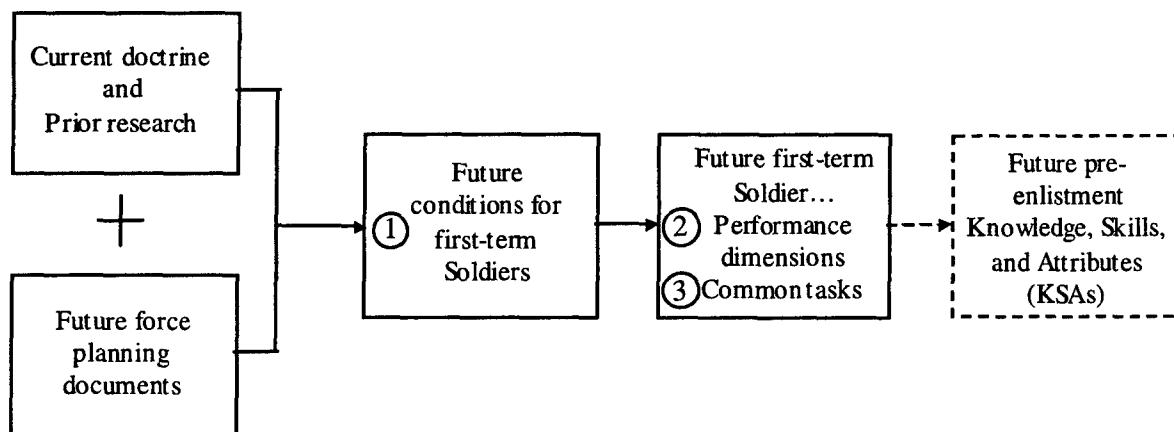
Weapons

- Operate personal weapon
- Engage targets with personal weapon
- Operate squad or crew-served weapon
- Engage targets with squad or crew-served weapon
- Maintain personal weapon
- Conduct safety checks on personal weapon
- Maintain squad or crew-served weapon
- Operate anti-armor weapon
- Engage targets with anti-armor weapon
- Conduct safety checks on squad or crew-served weapon
- Maintain anti-armor weapon
- Conduct safety checks on anti-armor weapon
- Locate a target by grid coordinates
- Prepare a range card

Starting Point for Analysis

The objective was to establish a comprehensive list of performance requirements applicable Army-wide (all Soldiers) and provide a basis for forecasting and measuring future performance requirements. It was determined that current common Soldier tasks and the available literature on future performance dimensions together formed a meaningful starting point.

The figure below summarizes the approach for arriving at this starting point. Especially important for arriving at Skill Level 1 Army-wide requirements were the current task specifications *STP 21-1-SMCT, the Soldier's Manual of Common Tasks, Skill Level 1 (October 2001 and April 2003 versions)*.¹ There were 86 tasks in the 2001 edition, including tasks in categories such as see, communicate, navigate, shoot, and survive. We supplemented this list with the results from an ARI survey on common tasks.² ARI's project identified 122 Skill Level 1 common tasks and 111 Skill Level 2 common tasks.



A recently completed project known as NCO21 was especially useful as a source for future job dimensions.³ This project identified job dimensions for broadly describing the job performance required of first-term Soldiers and junior Noncommissioned Officers in the first two decades of the 21st Century. From this project and similar works, the research team compiled a list of future performance dimensions.

¹ At the time the Select21 work was performed, the 2001 version of the common tasks was the latest available. Select21's more recent activities have taken the 2003 version into account. It has not significantly changed these results.

² Gosc, R.L., Mitchell, J.L., Weissmuller, J.J., & Tartell, D.M. (1999). *A study of enlisted common Soldier tasks and requirements* (Briefing Slides). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

³ Ford, L.A., Knapp, D.J., Campbell, J.P., Campbell, R.C., & Walker, C.B. (2000). *21st century Soldiers and noncommissioned officers: Critical predictors of performance* (Technical Report 1102). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Forecasting the Future

Since the NCO21 job analysis project, the Army had made a considerable effort to plan and describe the transformation of the current Army into the Future Force. This planning had implications for the likely viability of the earlier projections of the future job dimensions. The next step was to “update” the NCO21 dimensions using the latest information available on the Future Force including forecasted changes to doctrine, missions, technologies, training environments, and battlefield conditions.

Sources that were especially useful for reviewing and, as judged necessary, for “futurizing” the available descriptions of Army-wide performance dimensions included:

- U.S. Army. (2002, December). *Objective Force in 2015 white paper*. Arlington, VA: Objective Force Task Force, Department of the Army.
- U.S. Army. (2001). *Concepts for the Objective Force, United States Army white paper*. Online at: <http://www.army.mil/features/WhitePaper/default.htm>.
- U.S. Army Training and Doctrine Command. (2001). *Draft TRADOC Pamphlet 525-3-91, Objective Force: Tactical Operational and Organizational Concept for Maneuver Units of Action*.
- Institute for Land Warfare. (2000, October 17). *Soldiers on point for the nation, Army transformation*. Briefing presented to the Army Transformation Panel at the AUSA Annual Meeting, Washington, DC.
- Unit of Action Maneuver Battle Lab. (2002a). *Operational requirements document for the future combat systems*.
- Unit of Action Maneuver Battle Lab. (2002b). *Communalities for common task training for future combat systems*.
- Omega Training Group. (2001, September). *Land warrior version 1.0: Critical individual task analysis*. Fort Belvoir, VA: Soldier Systems, AMCPM-SDR.
- Hawley, J. K. (2002). *Future combat systems: Manpower, personnel, and training (MPT): On myths, wishful thinking, and reality*. Unpublished manuscript.
- Levy, D.G., Thie, H.J., Robbert, A.A., Naftel, S., Cannon, C., Ehrenberg, R., & Gershwin, M. (2001). *Characterizing the future defense workforce*. Santa Monica, CA: RAND.

These resources differed considerably in their level of detail and in focus on specific systems, some of which also varied in stage of development. But, they contributed significantly to an understanding of the future Army.

Considering all this information, project staff (with input from Army subject matter experts [SMEs]) developed the *Anticipated Army-Wide Conditions in the 21st Century for First-Term Soldiers*. Guided substantially by the NCO21 work, project staff also constructed the *Select21 Army-Wide Performance Dimensions for First-Term Soldiers*. Through SME interviews and workshops, additional modifications were made to (a) more accurately reflect the most recent

visions of the future, (b) reduce redundancy among the job dimensions, and (c) further differentiate the dimensions from each other.

The components of the Select21 dimension of "Performs Common Tasks" received especially thorough treatment so the dimension could provide a basis for measuring job performance. In particular, the component common tasks needed to likely exist (or carry over) in the future and to be described in sufficient detail for construction of items for measuring performance. To depict this dimension more precisely, a list of future-oriented common tasks was compiled and refined. The two main sources for common tasks were the *STP 21-1-SMCT (Soldier's Manual of Common Tasks, Skill Level 1)*, as indicated earlier, and a set of future tasks developed by the Unit of Action Maneuver Battle Lab (UAMBL).⁴ Tasks from these sources were merged into one using the future conditions as a guide. Feedback from SMEs was also a major factor in the result: the *Select21 Army-Wide Common Tasks for First-Term Soldiers*.

Other Potential Applications

The six anticipated future conditions identified in Select21 can be used by anyone in the Army who is looking for a convenient way to think about and communicate with others about the future that lies in store for entry-level Soldiers. For example, Army planners could use this list as a framework for evaluating potential changes to Soldier systems (e.g., the NCO Educational System) that facilitate Soldier performance under these conditions.

Although they are future-oriented, the first-term Soldier performance dimensions can also be used to communicate to today's Soldiers about their responsibilities. In a later Select21 product report, we will describe rating scales that have been developed to assess Soldiers in these performance areas. Even without those scales, however, supervisors can identify for each of their Soldiers those performance areas they need to develop to be a more effective Soldier. That is, these performance requirements provide a foundation for performance counseling and self-development oriented on future effectiveness.

The transformed Army will be typified by a mixture of units, equipment, doctrine, and missions covering the spectrum from those that are in existence today to the Future Combat Systems that currently only exists as untested concepts. With unit-specific and theater/mission-specific equipment and requirements being the norm, the system of job specifications and task designations used during the 1980s and 1990s may become outdated. More and more, Soldiers must learn generic or principle-based approaches to tasks and jobs as part of the job foundation. This will be followed by ever-changing specific applications on particular editions of equipment or materials encountered on the job. To accommodate this, the approach to designating tasks and task statements, conditions, and standards must also evolve.

The set of future-oriented Common Tasks identified in Select21 is an initial indication of what such a job description approach might look like, applied to Army-wide Soldier requirements. For example, the future Soldier may carry one of a number of existing rifles or

⁴ The UAMBL is also the TRADOC point of concentration for FCS tactics, techniques, and procedures (TTP) development.

weapons, or even some weapon variant that has yet to be developed. In the list of Common Tasks, this requirement is included under the task "Operate Personal Weapon." Such a task would need to be supported by generic training (focusing on the underlying concepts instead of rote memorization of procedural steps) that would provide the Soldier the foundation to adapt to the specifics of any particular personal weapon.

This generalized approach, as illustrated in this report's Common Task listing, is not without controversy. Moreover, it will require reanalysis of almost all Army jobs and Army-wide Soldier requirements. However, some Army jobs have already started this process and more will follow. Just as organizations and equipment are evolving to a Future Force, so too must the approach to job analysis and task specification. The approach to Common Tasks analysis, as outlined in this report, is a demonstration of this emerging development. Adaptation and further advancement of generic Army-wide Common Tasks will be a vital step in preparing to train and employ Soldiers of the future.

Who is involved in this work?

Select21 research and products will ultimately result in recommendations to the Assistant Secretary of Defense for Manpower and Reserve Affairs. The offices sponsoring this project are the Army G-1 and the Training and Doctrine Command (TRADOC). The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is conducting the research, largely through work performed under contract to the Human Resources Research Organization (HumRRO).

How to contact us and for more information

Your reactions and suggestions for these Research Product Reports are important, and we solicit input on the Select21 project. We also will try to answer any questions you might have. If you have any input or want to learn more about Select21 and its current status, please contact:

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